Issues to be Investigated & Questions to be asked as the FCC Drafts the 700 MHz Interoperability NOPRM

by

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1. Is the 700 MHz "digital dividend spectrum" subject to the interoperability rules that were originally applied to mobile services, i.e., based on the principles of equal and non-discriminatory service mandated by the Communications Act of 1934, and reaffirmed and updated in the Telecommunications Act of 1996?[1]
2. Were bidders for spectrum in the FCC's 700 MHz auction 73 in 2008 fully justified in pricing their bids on the basis that the band would be interoperable, as are all other mobile bands previously allocated in the U.S?
3. Is Verizon's introduction of non-interoperable devices in its 700 MHz Upper C block a violation of the open access provisions applied to this block in Auction 73?
4. What was the timeline and sequence of events and decisions by AT&T and Verizon relative to Auction 73, including, among others, any discussions with the FCC and other operators and third parties, with respect to the events that led to the implementation of non-interoperability by AT&T and Verizon? What cost/benefit calculations and evaluations of comparative advantages and disadvantages, as well as competitive considerations, were the basis of these two companies' decisions to reject interoperable devices in favor of devices which are non-interoperable not just between their LTE deployments at 700 MHz but also with the different 700 MHz blocks in which other operators acquired frequencies?
5. What were the contents and timing of the connections and interactions between Motorola and AT&T that resulted in the former's initiative with the 3GPP to define a new band class 17?
6. At the time of Auction 73 did Verizon and AT&T ask Qualcomm and/or other wireless semiconductor vendors to develop chipsets that would enable interoperable 700 MHz LTE devices to be offered at the time they were planning their LTE deployments? If so would these interoperable devices now be available? Would a decision to require device interoperability at the time of Auction 73 have led to any delay in the launching of Verizon's and AT&T's 700 MHz LTE services and if so for how long? On what basis would there have been such a delay?
7. How many non-interoperable LTE devices do AT&T and Verizon expect or hope to have in the hands of their customers by end-2012, mid-2013, and end-2013? What are those numbers as of end-2011?

[1] For one example see "Communications Act 1934" as amended by the 1996 Act, Sec. 256 (Coordination for Interconnectivity), p.108, http://transition.fcc.gov/Reports/1934new.pdf

8. What differences would there be in the costs incurred by AT&T and Verizon if a decision is reached by June 30, 2012, December 31st 2012, and June 30, 2013 to compel them to eliminate their non-interoperability strategy, assuming they have to absorb these costs, i.e., both network and customer device related, and proceed promptly to implement the decision without further protest, delay, and/or appeal? Would the requirement of interoperability lead to a larger and more robust market and thereby reduce unit costs of network and customer devices? If so, by how much?
9. How much of the 700 MHz spectrum that was acquired at auction by bidders has not yet been fully deployed? How many customers are now being serviced by 700 MHz spectrum outside of that acquired by AT&T and Verizon? What is the forecast for the non-AT&T/non-Verizon LTE market penetration assuming non-interoperability? What would the size of this market be if interoperability were mandated? What is the capacity of the 700MHz spectrum blocks held by operators other than AT&T and Verizon that are not interoperable with the 700 MHz frequencies held by these two largest operators?
10. Have operators other than AT&T and Verizon suffered significant financial and other losses already and projected, and, if so, by how much, **solely and directly** as a result of non-interoperability? These losses may be the consequence of their inability to launch LTE-based service in their 700 MHz frequencies, and/or of substantial delays in such launches simply because no devices are available that work in these frequencies (and the eventual costs of these devices may be high. If so, can this situation be shown to be directly attributable to non-interoperability and not to any other cause?
11. What is the likely impact of non-interoperability on the coverage and capacity of mobile broadband access in the U.S. especially in un-served and under-served areas? Non-interoperability may have an effect upon the practicality of inter-carrier roaming agreements and the costs of using some operators' 700 MHz frequencies (see 8 above).
12. What are the international consequences of non-interoperability for the availability, quality and costs of global mobile broadband roaming services for U.S.-based users abroad as well as visitors to the U.S? Non-interoperability introduces additional frequency combinations (uniquely or predominantly confined to the U.S.) that have to be accommodated in the development of global or multinational LTE devices capable of operating in several or many countries.
13. What is the potential impact of 700 MHz non-interoperability on the costs and effectiveness of broadband applications for public safety and homeland security agencies and first responders?